

ABSTRACT OF THE DISCLOSURE

Frames such as boxes or rectangles are recognized in image document data. A first determination process initially screens frames by applying a first set of criteria to select frame candidates. The first set of criteria includes a comparison of a dimension to a predetermined threshold value. A second determination process then further determines whether or not the selected frame candidates are true frames based upon a second set of criteria. For each frame candidate, a pair of a black pixel rectangle and a white pixel rectangle is determined. The second set of criteria includes at least some information on the black pixel rectangle and the white pixel rectangle.